ABSTRACT

[SUMMARY]

[OBJECT]

In order to provide a technology in an ultrasonic flowmeter to efficiently penetrate through both of a wedge and a fluid pipe surface so as to contribute to more accurate measurement of a flow rate.

[ORGANIZATION]

An ultrasonic flowmeter includes an ultrasonic transmitter for launching ultrasonic pulses of a predetermined frequency into the fluid to be measured in fluid pipe from an ultrasonic transducer along a measurement line; a flow velocity distribution measurement means for measuring flow velocity distribution of the fluid to be measured in a measurement region by receiving ultrasonic echoes (reflection wave A) reflected from the measurement region among the ultrasonic pulses incident into the fluid to be measured; and a flow rate operation means for operating a flow rate of the fluid to be measured in the measurement region based on the flow velocity distribution of the fluid to be measured, and a clamp-on type is adopted. A condition to make both a distance from the ultrasonic transmitter in the wedge to the outer surface of the liquid pipe and the wall width of the fluid pipe be an integral multiple of $\lambda/2$ of the frequency used should be satisfied.

[SELECTED DRAWING] FIG. 1